

## **REMARKS/ARGUMENTS**

### **Status of the Claims**

Claims 1-31 were pending. No claims have been amended. Therefore, upon entry of this amendment, which is respectfully requested, claims 1-31 will remain pending.

### **Double Patenting Rejection**

Claims 1-17 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3, 7, 8 and 17 of co-pending Application No. 09/691,405. Applicants will reassess this provisional double patenting rejection when the claims are in condition for allowance but for the provisional double patenting rejection. If necessary or desired, Applicants will consider filing a terminal disclaimer at that time.

### **35 USC §103 Rejections**

Claims 1-5 and 11-31 were rejected under 35 U.S.C. 103(a) as being obvious by Zimmerman *et al.*, Electrophoresis, 1995, Vol. 16, p. 941-947 (hereinafter "Zimmerman"), in view of Thompson *et al.*, Lupus, 1993, 2, p. 15-19 (hereinafter "Thompson") and Kim *et al.*, IEEE Transactions on Pattern Analysis and Machine Intelligence, 1986, p. 761-765 (hereinafter "Kim"), and further supported by Anderson *et al.*, WO/1999/039298; Filed 03/02/1999 (hereinafter "Anderson"). Claims 6-10 and 22-24 were rejected under 35 U.S.C. 103(a) as being obvious by Thompson in view of Kim and Diamond *et al.* as applied to claims 1-5 and 11-14, above, and further in view of Kopecky, Design and Implementation of the Internet-Based Medical Expert System ToxoNet, 1999, p. 1-153. Applicants respectfully traverse there rejections.

Applicants respectfully assert that the cited references, either individually or in combination, fail to teach or suggest limitations of the claims. For example, the cited references fail to teach or suggest the limitation of "automatically applying a k-nearest neighbor process to the sample data set and the reference data sets to produce a statistically derived decision

indicating whether the patient test sample is associated with **none, one or more of said specific SADs**" as recited in independent claim 1. (emphasis added) Similar limitations are presented in independent claim 18. Thus, one outcome of applying the k-nearest neighbor process is that the patient test sample will be found to be clear of the systemic autoimmune diseases (SADs).

Another outcome is that the patient test sample will be found to have one of the SADs. Another possible outcome is that the patient test sample will be found to have more than one of the SADs. This is significant because many people do, in fact, fit the definition of more than one disease or have what is called "overlap syndrome", which is a condition where there are symptoms consistent with more than one disease.

Applicants respectfully assert that the cited references taken individual or in combination fail to teach or suggest the capacity to provide a statistically derived decision where the outcome could be that the patient test sample is associated with none, one or more of the SADs, e.g., the patient is suffering from none one or more of the SADs. Thus there is a difference between the claimed invention as recited in claim 1 (and 18) and a combination of the cited references in that there is a capacity to detect whether a patient test sample is associated with none, one or more of the SADs. One technical effect of this difference is that a much more complete diagnosis of a patient sample may be performed. A patient sample may be found to be clear of the SADs of the claim, in which case a doctor may investigate other possible causes for the symptoms complained of, or a patient sample may be found to have more than one of the SADs in which case further investigations can be made looking for more than one of the SADs.

Accordingly, Applicants respectfully request withdrawal of the rejections to independent claims 1 and 18 for at least the above reasons. Applicants also respectfully request withdrawal of the rejections to all claims depending from claims 1 and 18, based at least on their dependency from claims 1 and 18.

It should be further noted that Applicants do not believe that one skilled in the art would be motivated to combine all the disparate references presented in the above rejections. Also, Applicants believe that such combinations would not result in the claimed invention, or that such combinations would render the claimed invention obvious. Nonetheless, Applicants

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will withhold further argument and comment at this time as Applicants believe the pending claims are allowable based at least on the above reasons.

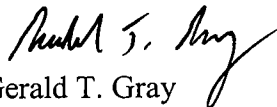
Further, Applicants maintain all prior arguments as to why the present claims distinguish over the cited references, and will readdress those arguments if necessary in an Appeal.

### CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance and an action to that end is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 925-472-5000.

Respectfully submitted,

  
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